

TEST PAPER 2023-24
COMPUTER APPLICATIONS
CLASS IX (ICSE)

Time : 2 Hours

M.M.:100

*Answers to this paper must be written on the paper provided separately.
You will **not** be allowed to write during the first 15 minutes.
This time is to be spent in reading the question paper.
The time given at the head of this paper is the time allowed for writing the answers.
This paper is divided into two Sections.
Attempt **all** questions from **Section A** and **any four** questions from **Section B**.
The intended marks for questions or parts of questions are given in brackets [].*

SECTION A (40 Marks)

Attempt all questions.

Question 1

[1X20=20]

- (i). Which of the following is not an object oriented programming language?
- C++
 - Simula
 - BASIC
 - Java
- (ii). Which of the following is a blue print that creates objects of similar types?
- abstraction
 - encapsulation
 - class
 - function
- (iii). In procedural programming, the stress is laid on:
- class
 - function
 - data
 - object
- (iv). Which of the following is the right way to use a comment in Java program?
- `/* comment */`
 - `/* comment`
 - `// comment //`
 - `*/ comment */`
- (v). `int p=55/0;`
Name the type of error in the given statement:
- Syntax
 - Logical
 - Runtime
 - Executorial
- (vi). Which of the following method will accept a string by using scanner object?
- `next()`
 - `next.read()`
 - `next.String()`
 - `next.char()`
- (vii). `double a = -8.35;`
`double p = Math.abs(Math.floor(a));`
What will be the final value stored in the variable p?
- 9.0
 - 8.0
 - 7.0
 - 8.5
- (viii). `double m = Math.max(Math.ceil(14.55),15.5);`
What will be the final value stored in the variable m?
- 15.0
 - 14.0
 - 15.5
 - 14.5
- (ix). If m, n, p are the three integers, then which of the following holds true, if $(m == n) \ \&\& \ (n != p)$?
- 'm' and 'n' are equal
 - 'n' and 'p' are equal
 - 'm' and 'p' are equal
 - none
- (x). `if(a<b)`
`c = a;`
`else`
`c = b;`

It can be written as:

- a. `c = (b<a) ? a:b;`
 - b. `c = (a!=b) ? a:b;`
 - c. `c = (a<b) ? b:a;`
 - d. none
- (xi). Which of the following statements will terminate the premature execution of a program?
- a. `System.exit(0)`
 - b. `break`
 - c. `stop`
 - d. `end`
- (xii). Which of the following for loop will not be an infinite loop?
- a. `for(;;)`
 - b. `for(a = 0; a < 1; a--)`
 - c. `for(a = 0; ; a++)`
 - d. `for(a = -1; a < 1; a++)`
- (xiii). Choose the odd one out from the following:
- a. `return`
 - b. `break`
 - c. `continue`
 - d. `if-else`
- (xiv). The while statement repeats the execution of a block only when the given condition is:
- a. `False`
 - b. `True`
 - c. `1`
 - d. `0`
- (xv). Which of the following keywords can be used to terminate a switch case as well as a loop construct?
- a. `continue`
 - b. `void`
 - c. `break`
 - d. `stop`
- (xvi).
`for(i = 0 ; i < 4 ; i++)`
`for(j = 1 ; j < 4 ; j++)`
 How many times the above nested loop will iterate?
- a. 12 times
 - b. 8 times
 - c. 4 times
 - d. 16 times
- (xvii). Cell numbers of a dimensional array are also known as:
- a. packets
 - b. blocks
 - c. subscripts
 - d. compartments
- (xviii). The elements of array[50] are numbered:
- a. from 1 to 50
 - b. from 0 to 49
 - c. from 1 to 51
 - d. none
- (xix). Which of the following function finds the size of array
`char m[] = { 'R', 'A', 'J', 'E', 'N', 'D', 'R', 'A' };?`
- a. `m.sizeof (a)`
 - b. `m.elementsof (m)`
 - c. `m.length`
 - d. None
- (xx). What will be the value stored in the variable 'c' if the following statement is executed?
`c = "COMPUTER".charAt("COMPUTER ".indexOf('P'))`
- a. 3
 - b. 4
 - c. P
 - d. M

Question 2:

- (i). Name any two types of Java Data Types. [2]
- (ii). Define an *Identifier*. Give an example of the same. [2]
- (iii). Assign the value of temp = 98.4 to a variable with requisite data type. [2]
- (iv). Explain the term *type casting*. [2]
- (v). Name the following: [2]
 - (i). A package that is invoked by default.
 - (ii). A keyword to make a variable constant.
- (vii). State the difference between `!=` and `=`. [2]
- (viii). Write an equivalent Java syntax for the following expression:- [2]
`a = 0.05 - 2y3`

$b=|x^y|$
 (ix). Rewrite the following using ternary: [2]
 if (income <= 1000)
 tax = 0;
 else
 tax = 12;

(h). What will be the output of the following program snippet? [2]
 s1 = "COMPUTER";
 s2 = "computer";
 System.out.println(s1.equals(s2));

(i). Evaluate the following expressions, if the values of the variables are [2]
 a = 1, b = 3 and c = 4.
 (i). a- (b++) * (c++)
 (ii). a * (++b) % c

SECTION B (60 Marks)

Attempt **any four** questions from this section. *The answers in this Section should consist of the **Programs in either BlueJ environment or any program environment with Java as the base.** Each program should be written using **Variable descriptions/ Mnemonic Codes** such that the logic of the program is clearly depicted. **Flow-Charts and Algorithms are not required.***

Question 3 [15]
 Write a program to input distance and find the travel charges according to following criteria.

kilometers travelled(km)	Rate/km
1 km to 6 km	Rs 25
7 km to 12km	Rs 10
13 km to 18km	Rs 15
19 km and above	Rs 20

Question 4 [15]
 Write a program in java to Find the sum of the given series:
 $S = a/(a+1) + a/(a+2) + a/(a+3) + \dots + a/a+10$

Question 5 [15]
 Write a program to input any string and count the total number of characters, vowels presents in the string.
 Example: Input: String : Application
 Output: Total Number of Characters : 11
 Number of Vowels : 5

Question 6 [15]
 Write a program to input 10 numbers in an array and sort it in ascending order using bubble sort.

Question 7 [15]
 Write a menu driven program for the followings.
 a) Largest digit of an entered integer
 b) Check for Armstrong number of an entered integer.
 (If sum of the cube each digit of a number is equal to the number then it is known as Armstrong number. For example – 153)

Question 8 [15]
 Write a program to display following pattern.
 1
 21
 321
 4321
